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Milling & Baking News

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A.B.A. preparing blueprint for baking environmental issues

DANA POINT, CALIF., Dec. 18. — The decade ahead will be "a very difficult" one for wholesale bakers and other food processors who increasingly will be affected by a deluge of state and federal environmental regulations on issues ranging from clean air and water to alternative fuels and solid waste. And while not all of the answers on these environmental issues are available, American Bakers Association has determined that the time has come for baking, individually and collectively, to make the environment a priority interest and identify courses of action for the 1990s.

These were among conclusions reached at a three-day environmental conference sponsored by A.B.A. at Dana Point. Approximately 100 persons, including 24 speakers, gathered Dec. 3-5 at Dana Point Resort to identify the environmental issues affecting wholesale baking and to consider individual and group responses.

With California widely recognized as a bellwether state for environmental issues, considerable discussion at the A.B.A. conference centered on activity affecting baking in that state. Speakers and conference registrants addressed California's clean air initiatives and baking oven emission controls, among others.

Also addressed were issues affecting bak-

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Final stance by European Community on agricultural trade reform under Uruguay Round may bring major change in C.A.P.

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Connecticut baking company slates $2.4-million expansion project to double production capacity for buns and rolls.

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LATE NEWS HIGHLIGHTS

Record net underscores ConAgra's food chain balance

OMAHA, Dec. 18. — Record second-quarter and first-half net earnings of ConAgra, Inc. underscore the Omaha-based company's food chain balance, according to Charles M. (Mike) Harper, chairman and chief executive officer. Net income of ConAgra in the second quarter ended Nov. 26 aggregated $63,945,000, equal to 52c per share on the common stock, up 13% from the year-ago quarter. Sales were $3,860,536,000, up 36%. In the first half ended Nov. 26, net income of ConAgra was $113,930,000, equal to 92c per share, up 20% from the year-ago half. First-half sales were $7,868,578,000, up 39% from the first six months of fiscal 1989. Current second-quarter and first-half earnings per share results reflect a three-for-two stock split effective Dec. 1.

David Lipka to board of directors of J. Lyons & Co.

LONDON, Dec. 18. — J. Lyons & Co. Ltd., the food division of Allied-Lyons P.L.C., has named David H. Lipka and William I. Savel to its board of directors. Mr. Lipka is president and chief executive officer of DCA Food Industries, Inc., New York; Mr. Savel is president and chief executive officer of Baskin-Robbins Ice Cream Co., Glendale, Calif. Both U.S. companies are owned by Allied-Lyons. The parent company has named Derrick Brown as assistant managing director of J. Lyons & Co. Mr. Brown has been a member of the J. Lyons & Co. board since 1985 and of the Allied-Lyons board since 1988.

British bakery workers accept revised pay offer

LONDON, Dec. 18. — A ballot of workers at Allied Bakeries, part of Associated British Foods P.L.C., and British Bakeries, a division of Ranks Hovis McDougall P.L.C., resulted in acceptance of a pay increase of 8.85% offered by the Federation of Bakers, which represents Britain's two largest bread bakers. These are the only two companies in the United Kingdom covered by a national agreement with the Bakers, Food and Allied Workers Union. The Federation had originally offered a 7.6% pay rise, but

Continued on Page 8

F.D.A. overhaul of 1987 health claims proposal proceeds

WASHINGTON, Dec. 18. — The Food and Drug Administration has submitted a detailed proposal to the Department of Health and Human Services that would place new restrictions on health claims for food — claims that have mushroomed during a lengthy period of delay in completing a rulemaking originated in 1987 by F.D.A.

The 87-page document, obtained by *Milling & Baking News* through American Bakers Association, is awaiting approval by H.H.S. for publication in the *Federal Register*. It was submitted to Dr. Louis W. Sullivan, Secretary of Health and Human Services, by F.D.A. Commissioner Frank E. Young, whose resignation is effective today.

The F.D.A. document, Dr. Young stated in the letter to Dr. Sullivan, contains three major provisions:

1 — A withdrawal of a 1987 proposal on

Continued on Page 9

Outstanding potential for production of soft red in 1990 augurs well for users of soft flour, both as to adequacy of supplies and cost. At same time, 1989-90 provides excellent example of how a huge soft red crop can disappear. No other class of wheat is governed to such an extent by export demand.

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Ingredient week

Breaking from a recent lull, demand for **bakery flour** expanded. Largest business was for coverage in the first four months of 1990. Sri Lanka tendered for flour under E.E.P. (See Page 33.)

Wheat futures ended higher, though a weekend selloff pared advances. The largest gains were scored in new crop futures. Export wheat business was light, but several tenders were working. Farmer selling of wheat was light. (See Page 34.)

Bookings of **bakery shortening** were limited to January-February fill-in requirements. Few significant long-term bookings were transacted. Shipping directions were in a seasonal slump. Palm oil prices remained depressed. (See Page 38.)

Only scattered bookings of **semolina** were completed. Prices moved higher and inquiry was light. Most pasta makers had contract balances through January. (See Page 37.)

Individual losses took place in **milk products**. All **dried egg products** registered small to moderate losses. Gains were recorded in **cocoa powder**. (See Page 37.)

Sweeteners presented a mixed picture. Spot raw cane was easier and deferred irregular. Prices for finished cane sugar were steady to higher. West coast beet sugar was easier; Midwest steady. (See Page 36.)

Sharp advances were recorded in **millfeed**. Active competition developed for 30-day shipment. (See Page 39.)

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LATE NEWS HIGHLIGHTS

Continued from Page 1 this was rejected by union members who then authorized a strike that was considered a threat to bread supplies over the Christmas holiday. The union demanded a 10% increase along with extra vacation pay. The offer finally accepted, by a vote of 4,336 to 2,602, was negotiated under the auspices of the Advisory Conciliation and Arbitration Service. The new offer means an increase of £10 ($16) per week in the basic pay rate, taking the weekly wage at the lowest of four grades to £123.12 ($197). Improvements also were offered on sick pay, safety issues and holidays.

New Burger King sandwich on oat bran bun

MIAMI, Dec. 18. — Burger King Corp., a subsidiary of The Pillsbury Co., which is owned by Grand Metropolitan P.L.C. of the United Kingdom, early next year plans to launch nationwide a new chicken sandwich — BK Broiler — on an oat bran bun. According to a spokesman for Burger King, the new oat bran bun will be 4 inches in diameter, resembling a traditional hamburger bun, and is the first oat-based bun offered by the company. Burger King decided to offer a sandwich featuring an oat bran bun, the spokesman said, because oat-based items currently are popular with consumers. As preparation of the BK Broiler, a formed chicken patty, requires some equipment modifications, the sandwich may not be in all Burger King restaurants until March. The product currently is in test market in San Diego and Greensboro, N.C. The nationwide introduction will be supported with an extensive advertising campaign that will begin at the end of February.

Moscow McDonald's flooded with 25,000 applications

Moscow, Dec. 18. — In contrast with United States fast-food restaurants, many of which are begging for help, the first McDonald's Corp. outlet in Moscow has been overwhelmed with more than 25,000 applications to fill 630 crew positions. The response results from a single advertisement in a Moscow newspaper. The applicants have varied backgrounds, including housewives re-entering the work force and students from Moscow University and other schools. Situated on Pushkin Square just off Gorky Street, the first McDonald's restaurant in Moscow is scheduled to open Jan. 31 and will seat 900 customers. The restaurant is part of a joint venture agreement between McDonald's Restaurants of Canada Ltd. and the Food Service Administration of the Moscow City Council. The agreement calls for an initial 20 McDonald's restaurants and a food production and distribution center in Moscow (see *Milling & Baking News* of Aug. 1, Page 45).

Commodity prices of GSM-credit sales to be reviewed

WASHINGTON, Dec. 18. — All applications for payment guarantees under the GSM-102 and GSM-103 credit guarantee programs will be reviewed to determine whether the price of the commodity being sold falls within the range of prevailing market prices, according to Paul Dickerson, general sales manager of the Foreign Ag- **Continued on Page 45**

COMMENT

New holiday season dimension

The breadstuffs industry of America appears to have been thrust into a unique position in light of the momentous events happening around the world as this holiday season approaches. Operating within the relatively sheltered environment of the United States, where many segments of the business have prospered as a result primarily of growing consumer preference for the industry's principal products, breadstuffs also is well aware of the needs of fellow grain men, millers and bakers in other parts of the world.

Indeed, some of the most illuminating stories to have come from Eastern Europe as the former U.S.S.R. satellites strive to establish their own free economies told of entrepreurial efforts by people like bakers seeking to supply the wants of their transformed countries. Many of the globally minded of breadstuffs in America are struggling at this season with questions having to do with possible participation in the economic "revolution" that is occurring in Eastern Europe.

One senses an attitude that simply observing the fast-moving events in this important part of the world is not enough, that ways must be devised to become a "player" in the best sense of that word. This excitement, and, yes, these opportunities add a significant dimension to this message of Season's Greetings to all our readers and friends.

MILLING CENSUS REPORT

Milling & Baking News

BUHLER

Growth in flour shipments continues

CONTINUATION OF AN UPWARD trend in shipments of wheat flour, including a 23% increase in the principal product category — bakers' and institutional white bread-type flour — is noted in the preliminary report of the 1987 Census of Manufactures for the Flour and Other Grain Mill Products Industry, Standard Industrial Classification 2041.

MILLING CENSUS REPORT

The Flour and Other Grain Mill Products Industry comprises establishments primarily engaged in milling flour or meal from wheat, corn and other grain, except rice. Principal products include wheat flour, flour mixes and refrigerated and frozen doughs and batters made in flour mills, corn flour and other corn mill products.

Under a revision in Standard Industrial Classification codes adopted in 1986, data on flour mixes and refrigerated and frozen doughs and batters that are produced in establishments other than flour mills are listed separately in S.I.C. 2045, newly defined as Prepared Flour Mixes and Doughs. (Story on Page 9-A.)

Net increases 37,642,000 cwts

The preliminary 1987 Census report places total wheat flour shipments by all establishments, regardless of industry classification, at 325,244,000 cwts, up 13%, or 37,642,000 cwts, from 287,602,000 cwts in 1982. The total in 1977 was 282,133,000 cwts. Value of shipments of wheat flour in 1987 was $3,208.4 million, up 3% from $3,102.3 million in 1982. The difference in the volume and value of shipment increases primarily reflects lower ingredient costs (see story on Page 11-A).

Value added by manufacture by plants in S.I.C. 2041 totaled $1,325.7 million in 1987, up 21% from $1,094.3 million five years earlier. The U.S. Department of Commerce describes value added by manufacture as "the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas."

While the preliminary Census report does not provide a total volume shipment figure for products of the Flour and Other Grain Mill Products Industry, aggregating the shipment data for individual product categories suggests that total shipments in 1987 were up 7% from 1982. On this inexact basis, shipments of products from milling wheat, corn and other grain, except rice — by establishments classified in the Flour and Other Grain Mill Products Industry as well as those classified in other industries — in 1987 aggregated 361,869,200 cwts, compared with 337,902,900 cwts in 1982.

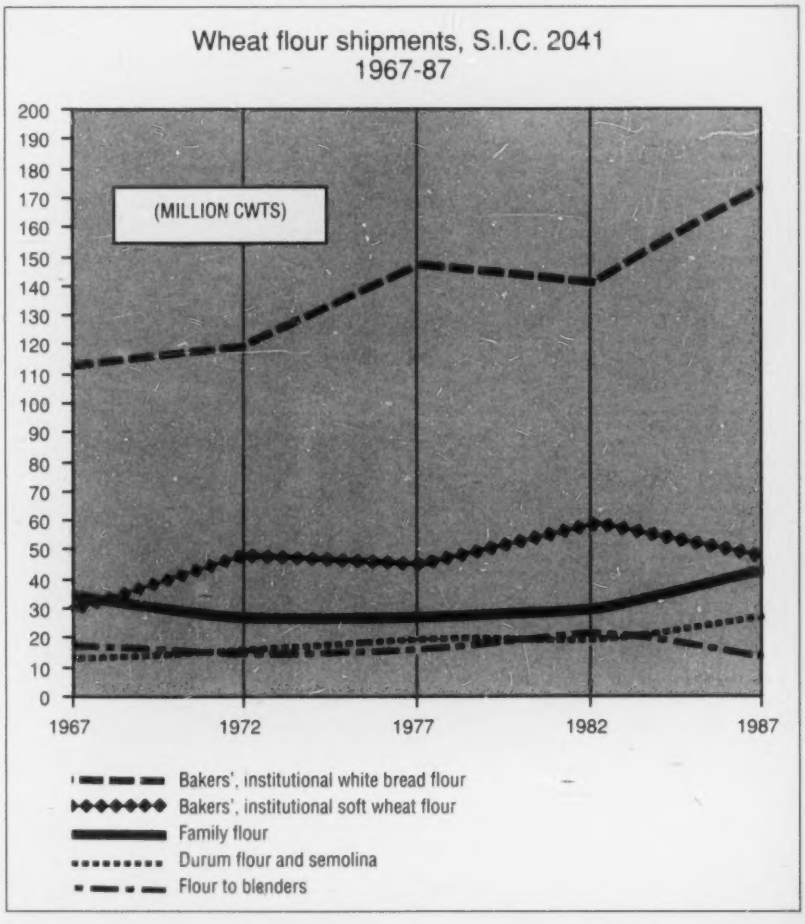
Total value of these shipments in 1987 was $4,777.5 million, down 2% from $4,871.2 million five years earlier.

According to the preliminary Census report, shipments of all wheat flour, except mixes, includes white, whole wheat, durum, bulgur and other wheat flour. Shipments of white flour, including export and domestic use, totaled 293,882,800 cwts in 1987, up 13% from 260,799,200 cwts in 1982 and compared with 250,810,000 in 1977. Value of these shipments in 1987 was $2,842.9 million, up 2% from $2,797.9 million five years earlier.

White flour shipments up

White flour shipments in 1987 included 275,823,100 cwts for domestic use, up 12% from 247,280,700 cwts in 1982, and at least 18,059,700 cwts of flour shipped for export, up 34% from 13,518,500 cwts in 1982. Some export data were withheld in the 1987 preliminary report because the estimate did not meet publication standards on the basis of either the response rate or a consistency review.

According to the preliminary report, domestic white flour shipments included 172,381,100 cwts of bakers' and institutional white-bread type flour; 47,333,000 cwts of bakers' and institutional soft wheat flour; 42,345,800 cwts of white family flour; and



Flour, Other Grain Mill Products shipments

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included.

1987 product code	Product	1987			1982		
		Number of companies with shipments of $100,000 or more	Product shipments[1]		Number of companies with shipments of $100,000 or more	Product shipments[1]	
			Quantity[2]	Value (million dollars)		Quantity[2]	Value (million dollars)
2041- --	**FLOUR AND OTHER GRAIN MILL PRODUCTS**						
	Total	**(NA)**	**(X)**	**4 777.5**	**(NA)**	**(X)**	**4 871.2**
20411 --	Wheat flour, except flour mixes	(NA)	(X)	3 208.4	(NA)	(X)	3 102.3
	White flour:						
	Shipped for export:						
20411 05	Commercial dollar exports, all white flour types, 1,000 sacks (cwt)	13	18 059.7	140.6	13	4 327.3	43.6
20411 07	All other exports of white flour, such as those under Public Law 480, do	5	(S)	97.5	9	9 191.2	94.5
	Domestic shipments:						
	Bakers' and institutional white bread-type flour:						
20411 11	Shipped in bulk cars or trucks, 1,000 sacks (cwt)	20	**149 010.9	1 326.2	22	120 204.9	1 231.3
20411 13	Shipped in containers, including tote bins, do	15	23 370.2	245.7	18	19 729.9	239.6
	Bakers' and institutional soft wheat flour, including commercial bakery, restaurant, hospital, etc.:						
20411 15	Shipped in bulk cars or trucks, 1,000 sacks (cwt)	24	38 640.3	320.9	30	52 742.6	498.2
20411 17	Shipped in containers, including tote bins, do	19	8 692.7	89.8	19	5 171.0	56.6
	Family white flour:						
	All family flour other than self-rising, such as phosphated, plain, bromated, enriched, and all-purpose, including all-purpose purchased by the U.S. Government for domestic donation:						
20411 21	Shipped in containers less than 25 lb, 1,000 sacks (cwt)	26	*28 774.0	358.5	24	20 380.8	311.7
20411 23	Shipped in containers 25 lb or more, do	21	*9 907.7	99.3	17	3 019.2	48.8
20411 26	Self-rising flour, do	18	3 664.1	66.2	(NA)	4 864.0	84.7
	Flour shipped to blenders or other processors (for further processing and/or packing before resale or shipment):						
20411 29	For use in food products (mixes, refrigerated doughs, soups, etc.), 1,000 sacks (cwt)	11	**10 700.9	81.6	18	17 618.6	163.2
20411 28	For use in nonfood products (pet food, industrial, etc.), do	13	*3 062.3	16.6	10	3 549.5	25.7
	Other than white flour:						
20411 31	Whole wheat, 1,000 sacks (cwt)	17	4 633.4	50.4	17	2 465.9	27.8
20411 51	Durum flour and semolina, do	10	26 727.8	258.3	9	17 676.5	192.9
20411 61	Bulgur, do	5	(S)	30.1	5	5 171.2	49.4
20411 98	Other wheat flour, including farina, do	11	(S)	21.4	11	1 489.2	18.0
20411 00	Wheat flour, except flour mixes (including white flour, whole wheat, durum, etc., made from wheat ground in this plant), n.s.k.	(NA)	(X)	5.2	(NA)	(X)	16.3
20412 --	Wheat mill products other than flour	(NA)	(X)	336.9	(NA)	(X)	478.5
20412 13	Wheat mill feed, 1,000 s tons	47	*5 556.6	298.3	64	5 061.9	456.9
20412 19	Other wheat mill products, including wheat germ, wheat bran, etc., do	27	309.4	38.4	9	28.6	8.4
20412 00	Wheat mill products other than flour, n.s.k.	(NA)	(X)	.2	(NA)	(X)	13.2
20413 --	Corn mill products	(NA)	(X)	554.1	(NA)	(X)	553.8
	Corn products for human consumption:						
20413 11	Whole cornmeal, 1,000 sacks (cwt)	10	(S)	36.8	22	3 191.2	51.2
20413 15	Degermed cornmeal, do	9	*5 482.6	165.3	12	7 648.3	111.8
20413 21	Corn grits and hominy, except for brewers' use, do	4	**8 310.1	54.5	10	6 746.3	87.8
20413 23	Corn grits and flakes for brewers' use, do	5	*3 147.9	18.5	8	6 537.4	55.0
20413 65	Hominy feed, cornmeal, and other byproducts of dry corn milling (for animal feed), 1,000 s tons	31	*823.7	68.9	40	1 396.7	138.2
20413 93	Corn flour, 1,000 sacks (cwt)	8	(S)	111.8	8	4 785.7	51.9
	Other corn mill products:						
20413 95	For human consumption, 1,000 sacks (cwt)	9	8 272.0	89.9	11	2 858.6	44.5
20413 97	Not for human consumption, do	6	1 095.5	7.7	5	412.2	3.5
20413 00	Corn mill products, n.s.k.	(NA)	(X)	.7	(NA)	(X)	10.0
20416 --	Other grain mill products	(NA)	(X)	82.2	(NA)	(X)	165.6
20416 11	Rye flour, 1,000 sacks (cwt)	3	1 103.5	9.2	6	1 434.8	16.6
20416 23	Other flour (excluding wheat, corn, rye), do	4	(D)	(D)	9	3 063.6	44.9
20416 27	Other mill feed (oats, rye, buckwheat, etc.), 1,000 s tons	9	(D)	(D)	13	613.5	101.7
20416 00	Other grain mill products, n.s.k.	(NA)	(X)	1.4	(NA)	(X)	2.5
20410 --	Flour and other grain mill products, n.s.k.	(NA)	(X)	159.2	(NA)	(X)	188.9
20410 00	Flour and other grain mill products, n.s.k., typically for establishments with 5 employees or more (see note)	(NA)	(X)	21.4	(NA)	(X)	141.4
20410 02	Flour and other grain mill products, n.s.k., typically for establishments with less than 5 employees (see note)	(NA)	(X)	136.9	(NA)	(X)	47.5

Note: In 1987 Census of Manufactures, data for establishments of small single unit companies with up to 20 employees were estimated from administrative-records data rather than data actually collected from respondents. Employment cutoffs used for administrative-records for each industry and shipments figures are included in code ending with "002". In both 1987 and 1982 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (five-digit) followed by "00" or to appropriate product group code (four-digit) followed by "000".

[1]Data reported by all producers, not just those with shipments of $100,000 or more.

[2]For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * 10 to 19 percent estimated; ** 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

13,763,200 cwts of flour shipped to blenders or other processors.

The 172,381,100 cwts in shipments of bakers' and institutional white bread-type flour — the largest wheat flour product category — was up 23% from 139,934,800 cwts in 1982. The 23% increase is in marked contrast with the previous five-year period, when 1982 shipments were down 4% from 145,781,700 cwts in 1977.

Of the total shipments of bakers' and institutional white bread-type flour in 1987, bulk shipments aggregated 149,010,900 cwts, up 24% from 120,204,900 cwts in 1982, while shipments in containers, including tote bins, aggregated 23,370,200 cwts, up 18% from 19,729,900.

In contrast with the 23% increase in shipments of bakers' and institutional white bread-type flour, shipments of bakers' and institutional soft wheat flour in 1987, totaling 47,333,000 cwts, were down 18% from 57,913,800 cwts in 1982.

Accounting for the decrease in all shipments of bakers' and institutional soft wheat flour in 1987 was a 27% decline in bulk shipments, which totaled 38,640,300 cwts, compared with 52,742,800 cwts in 1982. That decline was partially offset by a 68% increase in shipments of bakers' and institutional soft wheat flour in containers — 8,692,700 cwts in 1987 against 5,171,000 cwts in 1982.

Smaller share for soft flour

In 1987, white flour represented 78% of total shipments of bakers' and institutional flour (219,714,100 cwts) while soft wheat flour accounted for 22% of the total. Those percentages contrast with 1982 shares of 71% and 29%, respectively, but are more in line with the 77% and 23% shares, respectively, prevailing in the 1977 Census.

Shipments of family flour in 1987, according to the preliminary Census report, totaled 42,345,800 cwts, up 50% from 28,264,000 cwts in 1982 and compared with 26,133,000 in 1977. The totals include all-purpose flour purchased by the federal government for domestic donation.

The preliminary report placed 1987 shipments of family flour in containers of less than 25 lbs at 28,774,000 cwts, up 41% from 20,360,800 cwts in 1982. Shipments of family flour in containers of 25 lbs or more totaled 9,907,700 cwts in 1987, up 228% from 3,019,200 cwts five years earlier.

Self-rising flour down 25%

Shipments of self-rising flour in 1987 aggregated 3,664,100 cwts, down 25% from 4,884,000 cwts in 1982 and below 6,386,400 cwts in 1977.

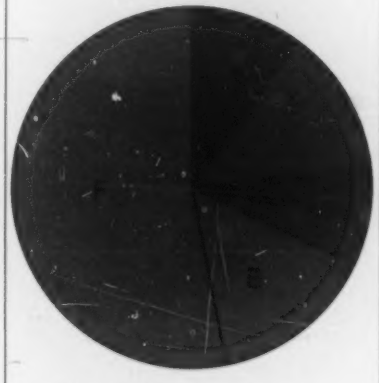
The preliminary Census report placed 1987 shipments of white flour to blenders or other processors at 10,700,900 cwts, down 39% from 17,618,600 cwts in 1982. These usages include mixes, refrigerated doughs and soups. Shipments of white flour for use in nonfood products in 1987 amounted to 3,062,300 cwts, down 14% from 3,549,500 cwts in 1982.

Total white flour shipments for export in 1987 included 18,059,700 cwts for commercial dollar exports, up significantly from 4,327,300 cwts in 1982. Also in the export category are all other shipments of white flour, primarily under the P.L.480 program. Data for these shipments in 1987 were withheld because the estimate did not meet publication standards. In 1982, all other shipments of white flour totaled 9,191,200 cwts.

Value of shipments of domestic white flour, according to the preliminary report, was $2,604.8 million, down 2% from $2,659.8 million in 1982. The total for 1987 included $1,571.9 million for bakers' and institutional white-bread type flour, up 7% from $1,470.9 million in 1982; $410.7 million for institutional soft wheat flour, down 26% from $554.8 million; $524 million for white family flour, up 18% from $445.2 million; and $98.2 million for flour shipped to blenders or other processors, down 48% from $188.9 million.

Value of shipments of white flour for export was $238.1 million, up 72% from $138.1 million in 1982. That value of shipments total for 1987 included $140.6 million as commercial dollar sales, up 222% from $43.6 million in 1982, and $97.5 million for all other exports of white flour, up 3% from $94.5 million.

Wheat flour shipments by type, 1987



A. 10% Other than white flour
B. 13% Family flour
C. 5% Export
D. 4% Shipped to blenders
E. 15% Bakers' and institutional soft wheat flour
F. 53% Bakers' and institutional white bread-type flour

Other wheat flour in growth

According to the preliminary Census report, 1987 shipments of other flour products, including whole-wheat flour, durum flour and semolina, bulgur flour and other wheat flour, such as farina, were up from 1982 levels.

Shipments of wheat flour, other than white, in 1987, totaled at least 31,361,200 cwts, up 17% from 26,802,800 cwts in 1982. The 1987 total is inexact because data for two categories — bulgur and other wheat flour — were withheld as the estimates did not meet publication standards. Value of shipments for the overall category in 1987 was $365.4 million, up 20% from $304.4 million.

The preliminary report placed shipments of whole-wheat flour in 1987 at 4,633,400 cwts, up 88% from 2,465,900 cwts in 1982. Shipments of durum flour and semolina in 1987 totaled 26,727,800 cwts, up 51% from 17,676,500 cwts in 1982.

Value of shipments of whole-wheat flour in 1987 was $50.4 million, up from $27.8 million in 1982; value of durum flour and semolina was $258.3 million, up from $192.9 million.

The preliminary report places shipments of wheat millfeed in 1987 at 5,556,600 tons, up 10% from 5,061,900 tons in 1982. Value of millfeed shipments in 1987 was $298.3 million, down 35% from $456.9 million in 1982.

Shipments of wheat germ showed a significant increase in 1987 at 309,400 tons, up ninefold from 28,600 tons in 1982 and compared with 73,800 tons

Continued on Page 9-A

Mix, Dough and Batter shipments

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included.

1987 product code	Product	1987			1982		
		Number of companies with shipments of $100,000 or more	Product shipments[1]		Number of companies with shipments of $100,000 or more	Product shipments[1]	
			Quantity[2]	Value (million dollars)		Quantity[2]	Value (million dollars)
2041- —	**FLOUR AND OTHER GRAIN MILL PRODUCTS**						
20415 —	Flour mixes and refrigerated and frozen doughs and batters, made in flour mills (see also code 20450)	(NA)	(X)	436.7	(NA)	(X)	382.4
	Flour mixes:						
	Pancake and waffle mixes:						
20415 51	Shipped in containers less than 5 lb	1,000 sacks (cwt)					
		11	**1 653.8	56.3	8	726.1	37.9
20415 52	Shipped in containers 5 lb or more	do	3	(D)	(D)	4	155.3	5.8
	Cake mixes, including gingerbread:						
20415 53	Shipped in containers less than 5 lb	1,000 sacks (cwt)					
		4	(D)	(D)	5	1 381.9	97.8
20415 54	Shipped in containers 5 lb or more	do	4	(D)	(D)	3	329.4	12.4
	Biscuit mixes:						
20415 56	Shipped in containers less than 5 lb	1,000 sacks (cwt)					
		10	*527.7	18.0	7	525.7	20.0
20415 57	Shipped in containers 5 lb or more	do	4	(D)	(D)	6	212.5	8.5
20415 60	Pie crust mixes	do	1	(D)	(D)	2	(D)	(D)
20415 63	Doughnuts and other sweet yeast goods mixes	do	3	(D)	(D)	3	(D)	(D)
	Bread and bread-type roll mixes:						
20415 66	Shipped in containers less than 5 lb	1,000 sacks (cwt)					
		3	117.7	7.6	2	(D)	(D)
20415 67	Shipped in containers 5 lb or more	do	5	534.1	18.3	5	693.3	17.0
	Other prepared flour mixes, including cookie mixes:						
20415 72	Shipped in containers less than 5 lb	1,000 sacks (cwt)					
		5	(D)	(D)	8	*1 660.8	75.6
20415 74	Shipped in containers 5 lb or more	do	5	(S)	11.3	10	865.7	20.2
	Refrigerated doughs and batters:						
20415 81	Biscuit dough	mil lb	-	-	-	-	-	-
20415 85	Bread and bread-type roll dough, including dinner	do	-	-	-	-	-	-
20415 87	Other doughs and batters, including pizza, coffeecake, pancake, cookie, etc.	do	2	(D)	(D)	2	(D)	(D)
	Frozen doughs and batters:							
20415 91	Bread and bread-type roll dough	mil lb	9	(D)	(D)	(NA)	(3)	(3)
20415 93	Other frozen doughs and batters, including pizza, coffeecake, pancake, cookie, etc.	do	5	(D)	(D)	(NA)	(3)	(3)
20415 00	Flour mixes and refrigerated doughs, n.s.k.		(NA)	(X)	-	(NA)	(X)	(D)
20416 —	Other grain mill products		(NA)	(X)	82.2	(NA)	(X)	165.6
20416 11	Rye flour	1,000 sacks (cwt)	3	1 103.5	9.2	6	1 434.8	16.6
20416 23	Other flour (excluding wheat, corn, rye)	do	4	(D)	(D)	9	3 063.6	44.9
20416 27	Other mill feed (oats, rye, buckwheat, etc.)	1,000 s tons	9	(D)	(D)	13	613.5	101.7
20416 00	Other grain mill products, n.s.k.		(NA)	(X)	1.4	(NA)	(X)	2.5
20410 —	Flour and other grain mill products, n.s.k.		(NA)	(X)	159.2	(NA)	(X)	188.9
20410 00	Flour and other grain mill products, n.s.k., typically for establishments with 5 employees or more (see note)		(NA)	(X)	21.4	(NA)	(X)	141.4
20410 02	Flour and other grain mill products, n.s.k., typically for establishments with less than 5 employees (see note)		(NA)	(X)	136.9	(NA)	(X)	47.5
2045- —	**PREPARED FLOUR MIXES AND DOUGHS**							
	Total		**(NA)**	**(X)**	**2 712.2**	**(NA)**	**(X)**	**1 691.8**
20450 —	Flour mixes and refrigerated and frozen doughs and batters, not made in flour mills (see also code 20415):							
	Flour mixes:							
	Pancake and waffle mixes:							
20450 51	Shipped in containers less than 5 lb	1,000 sacks (cwt)						
		6	730.4	43.5	10	2 654.3	114.4
20450 52	Shipped in containers 5 lb or more	do	8	1 914.5	65.4	10	812.6	17.3
	Cake mixes, including gingerbread:							
20450 53	Shipped in containers less than 5 lb	1,000 sacks (cwt)						
		8	(D)	(D)	12	6 181.1	451.5
20450 54	Shipped in containers 5 lb or more	do	19	4 693.9	355.9	16	**818.4	42.4
	Biscuit mixes:							
20450 56	Shipped in containers less than 5 lb	1,000 sacks (cwt)						
		3	(D)	(D)	4	519.5	7.5
20450 57	Shipped in containers 5 lb or more	do	7	171.7	6.1	11	*521.4	19.0
20450 60	Pie crust mixes	do	7	226.4	14.7	9	(D)	(D)
20450 63	Doughnuts and other sweet yeast goods mixes	do	14	6 215.3	168.1	17	(D)	(D)
	Bread and bread-type roll mixes:							
20450 66	Shipped in containers less than 5 lb	1,000 sacks (cwt)						
		3	(D)	(D)	5	(D)	(D)
20450 67	Shipped in containers 5 lb or more	do	15	1 995.3	91.1	15	1 749.6	41.4
	Other prepared flour mixes, including cookie mixes:							
20450 72	Shipped in containers less than 5 lb	1,000 sacks (cwt)						
		8	3 149.1	235.3	12	**8 664.3	242.4
20450 74	Shipped in containers 5 lb or more	do	12	3 832.7	153.7	13	3 438.4	88.9
	Refrigerated doughs and batters:							
20450 81	Biscuit dough	mil lb	4	(D)	(D)	4	(D)	(D)
20450 85	Bread and bread-type roll dough, including dinner	do	2	(D)	(D)	5	(D)	(D)
20450 87	Other doughs and batters, including pizza, coffeecake, pancake, cookie, etc.	do	10	281.1	222.5	15	(D)	(D)
	Frozen doughs and batters:							
20450 91	Bread and bread-type roll dough	mil lb	26	*470.2	232.3	(NA)	(3)	(3)
20450 93	Other frozen doughs and batters, including pizza, coffeecake, pancake, cookie, etc.	do	27	500.8	238.6	(NA)	(3)	(3)
20450 00	Flour mixes and refrigerated doughs, not made in flour mills, n.s.k., typically for establishments with 5 employees or more (see note)		(NA)	(X)	146.3	(NA)	(X)	(D)
20450 02	Flour mixes and refrigerated doughs, not made in flour mills, n.s.k., typically for establishments with less than 5 employees (see note)		(NA)	(X)	68.2	(NA)	(X)	15.5

[1]Data reported by all producers, not just those with shipments of $100,000 or more.

[2]For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * 10 to 19 percent estimated; ** 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[3]In 1982, frozen doughs and batters were included in industry 2036, but were not collected as separate product categories.

Continued from Page 5-A

in 1977. Value of shipments of wheat germ in 1987 likewise showed a sharp advance at $38.4 million, up 357% from $8.4 million in 1982.

Shipments of corn mill products for human consumption in 1987, according to the preliminary Census report, totaled 16,940,600 cwts, down 30% from 24,123,200 cwts in 1982. These product shipments include whole corn meal, degermed corn meal, corn grits, flakes and hominy. Value of these shipments in 1987 was $275.1 million, down 10% from $305.8 million.

Shipments of rye flour, as an "other grain mill product," totaled 1,103,500 cwts in 1987, down 23% from 1,434,800 cwts in 1982; value of shipments was $9.2 million, down 45% from $16.6 million.

Census adds frozen doughs, batters

CHANGES IN INDUSTRY definitions and addition of new product categories in the 1987 Census of Manufactures have resulted in an incomplete data package for flour mixes and refrigerated dough and batter products and limits comparisons with previous Census reports. At the same time, the 1987 Census is the first to provide information on the important frozen dough and frozen batter product group.

MILLING CENSUS REPORT

Under a U.S. Department of Commerce revision of Standard Industrial Classification codes adopted in 1986, S.I.C. 2045, previously the Blended and Prepared Flour Industry, is now designated as Prepared Flour Mixes and Doughs. This industry comprises establishments, other than flour mills, producing flour mixes and refrigerated and frozen doughs and batters. Data related to these mixes and doughs produced in flour mill establishments are included under S.I.C. 2041, Flour and Other Grain Mill Products.

In previous Census reports, frozen doughs and batters were included as part of the Frozen Specialties Industry, S.I.C. 2038, but were not reported as a separate product category. In a related change in the 1987 Census, frozen baked foods such as pies, sweet yeast goods, soft cakes and donuts, were shifted from S.I.C. 2038 to a new industry classification, S.I.C. 2053, Frozen Bakery Products.

Shipment value up 60%

According to the preliminary Census report for S.I.C. 2045, value of shipments of flour mixes and refrigerated and frozen doughs and batters by all plants other than flour mills — including those classified in S.I.C. 2045 and those classified in other industries — totaled $2,712.2 million, up 60% from $1,691.8 million in 1982.

Based on the limited data presented for individual products in S.I.C. 2045, "other prepared flour mixes, including cookie mixes," paced poundage shipments in 1987. This category was followed by donuts and other sweet yeast goods mixes; cake mixes; pancake and waffle mixes, and bread and bread-type roll mixes.

Shipments of "other prepared flour mixes" in 1987, according to the preliminary Census report, aggregated 6,981,800 cwts, down 2% from 7,102,700 cwts in 1982. Of the 1987 total, products shipped in containers of 5 lbs or more accounted for 3,832,700 cwts, compared with 3,438,400 cwts in 1982. Products shipped in containers of less than 5 lbs accounted for 3,149,100 cwts, against 3,664,300 cwts in 1982.

Shipments of donut and other sweet yeast goods mixes totaled 6,215,300 cwts in 1987. Information on this product category in the 1982 Census was withheld to avoid disclosing data on individual companies.

According to the preliminary Census report, 1987 shipments of cake mixes totaled at least 4,693,900 cwts; data were withheld on shipments in containers of less than 5 lbs to avoid disclosing information on individual companies. In the 1982 Census, which listed complete data on cake mixes, shipments aggregated 6,999,500 cwts.

Shipments of pancake and waffle mixes in 1987 totaled 2,644,900 cwts, down 24% from 3,466,800 cwts five years earlier. According to the preliminary Census report, shipments of these mixes shifted from smaller to larger containers. Shipments in containers of 5 lbs or more totaled 1,914,500 cwts, up from 812,600 cwts in 1982; shipments in containers of less than 5 lbs were 730,400 cwts, down from 2,654,300 cwts in 1982.

Bread, roll mixes incomplete

Information on bread and bread-type roll mixes is incomplete, as the 1987 preliminary report withheld data on shipments in containers of less than 5 lbs to avoid disclosing information on individual companies. Shipments in containers of 5 lbs or more totaled 1,995,300 cwts. In 1982, shipments of bread and bread-type roll mixes in the larger containers were 1,749,600 cwts.

Shipment numbers for biscuit mixes also are incomplete because of withheld data. Biscuit mix shipments totaled at least 171,700 cwts in 1987, with information again withheld for shipments in containers of less than 5 lbs. In 1982, biscuit mix shipments in containers of 5 lbs or more totaled 521,400 cwts.

For pie crust mixes, the preliminary Census report placed shipments in 1987 at 226,400 cwts; data on this category were withheld in 1982.

The 1987 report for S.I.C. 2045 discloses shipment figures for one refrigerated dough category — "other doughs and batters, including pizza, coffee cake, pancake mix, cookie, etc." Shipments in this category were 281.1 million lbs, with no comparison for 1982 due to withheld data.

New frozen dough category

In the new frozen doughs and batters product category, shipments in 1987 aggregated 971 million lbs, including 470.2 million lbs of bread and bread-type roll dough, and 500.8 million lbs of "other frozen doughs and batters, including pizza, coffee cake, pancake mix, cookie, etc."

Information on value of shipments in S.I.C. 2045 is as fragmented as shipment data due to withheld information.

Other prepared flour mixes, including cookie mixes, accounted for the largest value of mix shipments in 1987 at $389 million, based on the limited information in the preliminary report.

Value of cake mix shipments, again with some data withheld, was at least $355.9 million in 1987. Shipments of donut and other sweet yeast goods mixes were valued at $168.1 million.

The preliminary Census report

placed value of pancake and waffle mix shipments in 1987 at $108.9 million. For bread and bread-type roll mixes, value of shipments in 1987 was at least $91.1 million, with some data withheld. Value of pie crust mix shipments in 1987 was $14.7 million; biscuit mix shipments were at least $6.1 million, with some information withheld.

In Flour and Other Grain Mill Products, S.I.C. 2041, comparisons also are limited on flour mixes and refrigerated and frozen doughs and batters produced in flour mills. Bread and bread-type roll mixes produced in flour mills is the only category with complete information for 1987. In other categories, some or all data were withheld to avoid disclosing information on individual companies.

The mix volume leader in S.I.C. 2041, based on the limited data presented for 1987, was pancake and waffle mixes. Shipments of this category totaled at least 1,653,800 cwts; data were withheld for shipments in containers of 5 lbs or more. In 1982, the aggregate was 881,400 cwts.

Shipments of bread and bread-type roll mixes in 1987 totaled 651,800 cwts, including 117,700 cwts of products shipped in containers of less than 5 lbs and 534,100 cwts in containers of 5 lbs or more. Shipment data for this category were withheld in the 1982 Census.

Downward trend in milling plant number slows

WHILE THE LONG-TERM downward trend in number of plants in the Flour and Other Grain Mill Products Industry, Standard Industrial Classification 2041, continued in the 1982-87 period, the rate of reduction was not as sharp as noted in previous Census of Manufactures reports.

MILLING CENSUS REPORT

The preliminary Census report for 1987 showed a total of 354 establishments in S.I.C. 2041, which includes both wheat flour and dry corn milling operations, only six fewer than in 1982. In earlier Census periods, total plant numbers decreased 47 between 1977 and 1982; 50 between 1972 and 1977; 84 between 1967 and 1972, and 196 between 1962 and 1967.

The 2% decrease in plant numbers in the Flour and Other Grain Mill Products Industry in 1982-87 contrasted with a 12% reduction in 1977-82, 11% in 1972-77, 16% in 1967-72 and 12% in 1962-67.

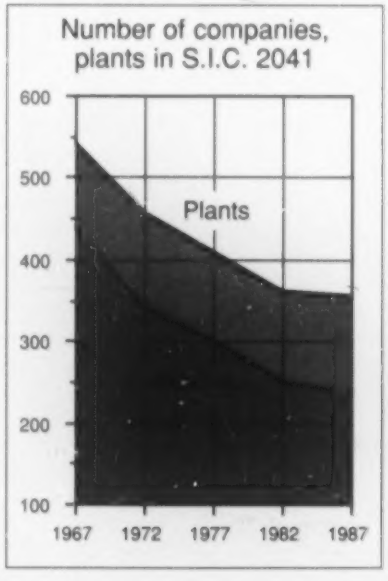
According to the preliminary Census report, the number of establishments with 20 or more employes in 1987 — 165 — was down nine from 174 in 1982. That reduction contrasted with an increase of one plant in the 1977-1982 period — the first gain in the number of establishments with 20 or more employes since plant compilations by employe size began in 1947. Flour and Other Grain Mill Products establishments with 20 or more employes numbered 173 in 1977, 181 in 1972 and 213 in 1967.

The preliminary Census report for 1987 showed a total of 111 companies and 147 plants in the Prepared Flour Mixes and Doughs Industry, S.I.C. 2045. Of the plant total, 96, or 65%, had 20 or more employes. Operational data from earlier Census reports are not comparable because of changes in the definition of S.I.C. 2045.

Company number down slightly

The number of companies in S.I.C. 2041 continued to decrease, according to the preliminary Census report, but also at a slower rate than in previous years. According to the preliminary Census, 235 companies were in business in the Flour and Other Grain Mill Products Industry in 1987, compared with 251 in 1982, 300 in 1977 and 340 in 1972.

Total value of all shipments by establishments classified in the Flour and Other Grain Mill Products Industry totaled $4,842.6 million in 1987, down 2% from $4,932.8 million in 1982. That decline in 1987, largely reflecting a decrease in cost of materials and ingredients (see Page 11-A), contrasted with a 34% increase in the 1982 Census and a 56% jump in the 1977 Census. The 1972 Census showed a 3% decline in value of shipments.



Value of shipments of products classified as primary to the industry (by all producers, regardless of industry classification) was $4,777.5 million in 1987, down 2% from $4,871.2 million in 1982 and compared with $3.6 billion in 1977.

In 1987, establishments in S.I.C. 2041 accounted for 60% of products considered primary to the industry. This coverage ratio calculation includes prepared mixes, doughs and batters from both S.I.C. 2041 and S.I.C. 2045 and thus is not directly comparable with previous Census reports.

Total value of all product shipments by establishments classified in the Prepared Flour Mixes and Doughs Industry totaled $2,759.2 million in 1987.

Employment at 13,300

Total employment and the number of production workers in S.I.C. 2041 in 1987 decreased at a sharper rate than the decline in plant numbers, according to the preliminary Census report. It placed total employment in the industry in 1987 at 13,300, down 12% from 15,100 in 1982 and compared with 15,600 in 1977 and 16,100 in 1972.

The 1987 employment number included 9,800 production workers, down 14% from 11,400 in 1982 and compared with 11,300 in 1977 and 11,900 in 1972.

In the newly defined S.I.C. 2045 employment totaled 12,200 in 1987, including 8,300 production workers.

New capital expenditures by the Flour and Other Grain Mill Products Industry in 1987 totaled $78.6 million, down 13% from $90.6 million in 1982. The latter aggregate was up 73% from $52.4 million in 1977. Capital spending by companies in S.I.C. 2045 was $66.9 million.

Historical statistics for S.I.C. 2041, 2045

(Data on value added, cost of materials and value of shipments are for all products, including those classified as secondary.)

Year	Companies (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 2041, FLOUR AND OTHER GRAIN MILL PRODUCTS															
1987 Census	235	354	165	13.3	350.5	9.8	21.2	242.0	1 325.7	3 525.6	4 842.6	78.6	339.8	98	60
1986 ASM	(NA)	(NA)	(NA)	13.5	348.7	9.9	21.4	241.3	1 345.9	3 642.5	5 003.1	62.8	316.9	(NA)	(NA)
1985 ASM	(NA)	(NA)	(NA)	13.3	331.5	9.8	21.0	230.1	1 159.4	4 039.0	5 204.6	82.7	407.0	(NA)	(NA)
1984 ASM	(NA)	(NA)	(NA)	13.9	335.5	10.3	22.3	234.4	1 208.0	4 108.8	5 305.7	68.7	396.2	(NA)	(NA)
1983 ASM	(NA)	(NA)	(NA)	14.7	335.4	10.9	24.2	237.3	1 198.4	4 012.1	5 228.6	64.6	354.9	(NA)	(NA)
1982 Census	251	360	174	15.1	323.0	11.4	24.2	233.3	1 094.3	3 625.5	4 932.8	90.6	361.6	97	(NA)
1981 ASM	(NA)	(NA)	(NA)	15.8	305.7	11.6	26.1	214.6	1 113.7	4 169.1	5 313.8	67.3	362.3	(NA)	(NA)
1980 ASM	(NA)	(NA)	(NA)	15.5	273.9	11.3	25.6	195.7	1 030.4	4 119.8	4 835.4	53.3	439.6	(NA)	(NA)
1979 ASM	(NA)	(NA)	(NA)	15.3	255.5	11.2	25.2	181.3	942.5	3 281.2	4 218.3	68.4	402.0	(NA)	(NA)
1978 ASM	(NA)	(NA)	(NA)	15.1	241.6	11.1	24.4	168.5	845.3	2 934.3	3 760.9	56.9	303.8	(NA)	(NA)
1977 Census	300	407	173	15.6	222.3	11.3	24.6	153.4	824.5	2 854.2	3 663.3	52.4	263.2	98	(NA)
1976 ASM	(NA)	(NA)	(NA)	17.5	217.1	12.5	26.9	149.0	746.1	3 343.9	4 095.9	53.6	303.3	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	17.7	204.0	12.9	27.7	139.3	714.9	3 569.5	4 327.6	45.8	328.2	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	17.4	185.3	13.0	28.1	128.7	609.1	3 902.1	4 502.2	44.0	381.1	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	17.0	167.9	12.7	28.4	116.5	589.1	2 785.7	3 328.3	29.8	375.7	(NA)	(NA)
1972 Census	340	457	181	16.1	152.8	11.9	26.9	108.1	509.8	1 855.2	2 380.0	30.0	211.3	97	(NA)
INDUSTRY 2045, PREPARED FLOUR MIXES AND DOUGHS															
1987 Census	111	147	96	12.2	280.9	8.3	16.9	181.7	1 290.7	1 461.7	2 759.2	66.9	159.2	89	63

Lower grain costs cut total spending

DESPITE SIGNIFICANT increases in utilization of wheat and corn, the cost of all materials, ingredients, containers and supplies used by establishments in the Flour and Grain Mill Products Industry in 1987 for products considered primary to the industry was well below the 1982 level. Sharply lower grain costs were responsible, according to the preliminary Census of Manufactures report for S.I.C. 2041.

MILLING CENSUS REPORT

Total delivered cost of materials, ingredients, containers and supplies used by establishments in S.I.C. 2041 in 1987 for products considered primary to the industry aggregated $3,207.9 million, down 11% from $3,585.6 million in 1982 and compared with $2,707.4 million in 1977 and $1,804.1 million in 1972.

Use of wheat, corn increases

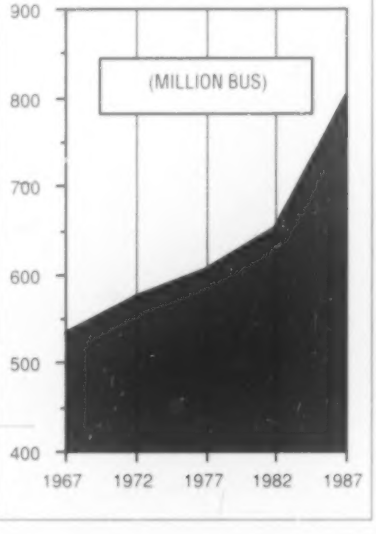
Mills in 1987 utilized 799 million bus of wheat, a 23% increase from 652.2 million bus in 1982 and compared with 605.2 million bus in 1977 and 573.2 million bus in 1972.

Delivered cost of wheat used by establishments in the Flour and Other Grain Mill Products Industry in 1987 totaled $2,344.4 million, down 12% from $2,655.8 million in 1982 and compared with $1,845.1 million in 1977 and $1,365.3 million in 1972.

At $2,344.4 million, the delivered cost of wheat in 1987 was $2.93 per bu, down from $4.07 per bu in 1982 and below $3.05 in 1977. The delivered cost of wheat in 1972 was $2.38 per bu; in 1967 it was $2.50 per bu.

A similar cost situation prevailed in the industry's use of corn, which increased for the first time since the 1963-67 Census period. Mills in 1987 utilized 108.2 million bus of corn, up 56% from 69.2 million bus in 1982. The latter figure was down from 83.4 million bus in 1977.

Use of wheat by S.I.C. 2041, Flour and Other Grain Mill Products



Delivered cost of corn used by mills in 1987 was $185.6 million, equal to $1.72 per bu, down from $198.4 million, or $2.87 per bu, in 1982. In 1977, delivered cost of corn was $188.5 million, or $2.26 per bu.

Reversal in wheat flour

Utilization of wheat flour by establishments in the Flour and Other Grain Mill Products Industry in 1987, according to the preliminary Census report, was 17,138,900 cwts, up 114% from 8,017,500 cwts in 1982. That increase from 1982-87 contrasted with the previous five-year Census period; usage in 1982 was down 16% from 9,588,200 cwts in 1977.

Delivered cost of wheat flour used by mills in 1987 was placed at $140.3 million, compared with $84.9 million in 1982 and $69.9 million in 1977.

The preliminary Census report showed that mills in 1987 utilized 16.6 million bus of oats with a delivered cost of $27.3 million.

Data on oat utilization in 1982 were withheld in the Census of Manufactures report to avoid disclosing information on individual companies; in

1977, mills used 19.5 million bus of oats; delivered cost was $32.3 million.

Barley use down 38%

Utilization of barley by the Flour and Other Grain Mill Products Industry in 1987 totaled 800,000 bus, down 38% from 1.3 million bus in 1982 and compared with 5.3 million bus in 1977.

Data on utilization of sugar (cane and beet) by establishments in the Flour and Other Grain Mill Products Industry in 1987 were withheld in the preliminary Census report because the estimate did not meet publication standards on the basis of either the response rate or a consistency review. In 1982, sugar utilization by the Flour and Other Grain Mill Products Industry aggregated 91,500 tons.

Mills used 41.8 million lbs of fats and oils in flour and prepared flour mixes in 1987, with a delivered cost of $22.2 million. In 1982, mills used 77.4 million lbs of fats and oils; in 1977, utilization totaled 56 million lbs.

Shipping, packaging items

Establishments in the Flour and Other Grain Mill Products Industry in 1987 used 521.8 million paper shipping sacks with a delivered cost of $98.1 million, according to the preliminary Census report. Data on usage of paper shipping sacks were withheld from publication in the 1982 Census; delivered cost of these sacks was $39.2 million.

Mills used 64.8 million textile bags, including burlap, cotton and polypropylene, in 1987, up 7% from 60.6 million in 1982 and compared with 56 million in 1977. The preliminary report placed delivered cost of textile bags in 1987 at $15.9 million, compared with $16.8 million in 1982 and $17.2 million in 1977.

The preliminary report showed that delivered cost of paperboard containers, boxes and corrugated paperboard used by mills in the Flour and Other Grain Mill Products Industry in 1987 aggregated $25.1 million, against $27 million in 1982 and $8 million in 1977.

Data for new S.I.C. 2045

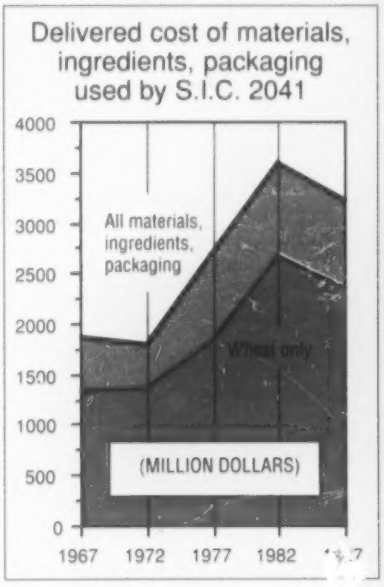
Utilization of wheat flour by establishments in the newly defined Prepared Flour Mixes and Doughs Industry, S.I.C. 2045, totaled 35,285,500 cwts in 1987, with a delivered cost of $337.1 million.

In the 1982 Census, utilization of wheat flour in S.I.C. 2045, then known as Blended and Prepared Flour and not including frozen doughs and batters, aggregated 12,153,600 cwts.

Establishments in S.I.C. 2045 used 664.3 million cwts of non-wheat flour and prepared flour mixes in 1987, with a delivered cost of $37.1 million. These plants used 205.2 million tons of sugar and 181.4 million lbs of fats and oils.

Delivered cost of flexible packaging materials used by plants in S.I.C. 2045 in 1987 was $17.7 million; delivered cost of paperboard containers, boxes and corrugated paperboard totaled $89.9 million.

Delivered cost of all materials, ingredients, containers and supplies used by S.I.C. 2045 plants in 1987 aggregated $1,324.8 million.



Ingredients, materials consumed

Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry.

1987 material code	Material		1987 Quantity	1987 Delivered cost (million dollars)	1982 Quantity	1982 Delivered cost (million dollars)
	INDUSTRY 2041, FLOUR AND OTHER GRAIN MILL PRODUCTS					
	Materials, ingredients, containers, and supplies		(X)	**3 207.9**	(X)	**3 585.8**
	Grain:					
011111	Wheat	mil bushels	799.0	2 344.4	652.2	2 655.8
011521	Corn	do	108.2	185.6	69.2	198.4
011931	Oats	do	16.6	27.3	(D)	(D)
011913	Barley	do	.8	1.6	1.3	3.6
011961	Sorghum	do	(S)	4.5	(D)	(D)
204110	Wheat flour	1,000 cwt	17 138.9	140.3	8 017.5	84.9
208011	Sugar (cane and beet) in terms of sugar solids	1,000 s tons	(S)	25.2	91.5	44.1
207003	Fats and oils for use in flour and prepared flour mixes	mil lb	41.8	22.2	77.4	25.5
239303	Textile bags (including burlap, cotton, polypropylene, etc.)	mil bags	64.8	15.9	60.6	16.8
267420	Paper shipping sacks	mil sacks	521.8	98.1	(S)	39.2
265001	Paperboard containers, boxes, and corrugated paperboard		(X)	25.1	(X)	27.0
970099	All other materials, ingredients, containers, and supplies		(X)	139.7	(X)	286.9
971000	Materials, ingredients, containers, and supplies, n.s.k.		(X)	178.0	(X)	151.2
	INDUSTRY 2045, PREPARED FLOUR MIXES AND DOUGHS					
	Materials, ingredients, containers, and supplies		(X)	**1 324.8**	(NA)	(NA)
204110	Wheat flour	1,000 cwt	35 285.5	337.1	(NA)	(NA)
204001	Flour, other than wheat, and prepared flour mixes	do	664.3	37.1	(NA)	(NA)
206011	Sugar (cane and beet)	1,000 s tons	205.2	101.0	(NA)	(NA)
207003	Fats and oils for use in flour and prepared flour mixes	mil lb	181.4	47.4	(NA)	(NA)
190003	Flexible packaging materials		(X)	17.7	(NA)	(NA)
265001	Paperboard containers, boxes, and corrugated paperboard		(X)	89.9	(NA)	(NA)
970099	All other materials, ingredients, containers, and supplies		(X)	528.4	(NA)	(NA)
971000	Materials, ingredients, containers, and supplies, n.s.k.		(X)	166.5		

NOTE

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